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### Memory Retrieval During the Processing of Adjuncts and Co-Ordination

#### Citation for published version:

Cunnings, I & Sturt, P 2018, 'Memory Retrieval During the Processing of Adjuncts and Co-Ordination' CUNY 2018, California, United States, 15/03/18 - 17/03/18, .

#### Link:

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# Memory Retrieval During the Processing of Adjuncts and Co-Ordination

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## Cue-Based Parsing

- Cue-based parsing predicts linguistic dependencies should be susceptible to *similarity-based interference* (Jäger et al., 2017; Lewis et al., 2006; McElree, 2000)
- One well-studied example of interference comes from *illusions of grammaticality* in subject-verb agreement (e.g. Lago et al., 2015; Wagers et al., 2009)

- 1 The key to the cabinet/s was rusty
- 2 The key to the cabinet/s were rusty

## Illusions of Plausibility

- Recent research has also implicated *illusions of plausibility* in filler-gap dependencies (Cummings & Sturt, under review)
- 3 Sue saw the plate that the butler with the cup/tie accidentally shattered earlier today
- 4 Sue saw the letter that the butler with the cup/tie accidentally shattered earlier today
- Such illusions suggest interference influences perception of sentence plausibility as well as grammaticality

## Adjuncts and Co-Ordination

- The extent to which *illusions of plausibility* are observed in other linguistic dependencies is not known
- Some evidence of such illusions in temporal adjuncts (Cummings & Sturt, CUNY 2014)
- 5 The policeman/criminal who saw that the cop/car was waiting shouted loudly before arresting the robber for theft
- Can we find further evidence of *illusions of plausibility*?

## The Current Study

- We investigated *illusions of plausibility* in two experiments (n = 48 in each)
- Experiment 1 investigated temporal adjuncts (see below)
- Experiment 2 tested identical materials but with co-ordination  
e.g. The detective/criminal stood by the cop/car *and then* arrested the robber outside the bank.

### (A) Plausible, Animate Distractor

The detective stood by the cop very calmly after arresting the robber outside the bank.

### (B) Plausible, Inanimate Distractor

The detective stood by the car very calmly after arresting the robber outside the bank.

### (C) Implausible, Animate Distractor

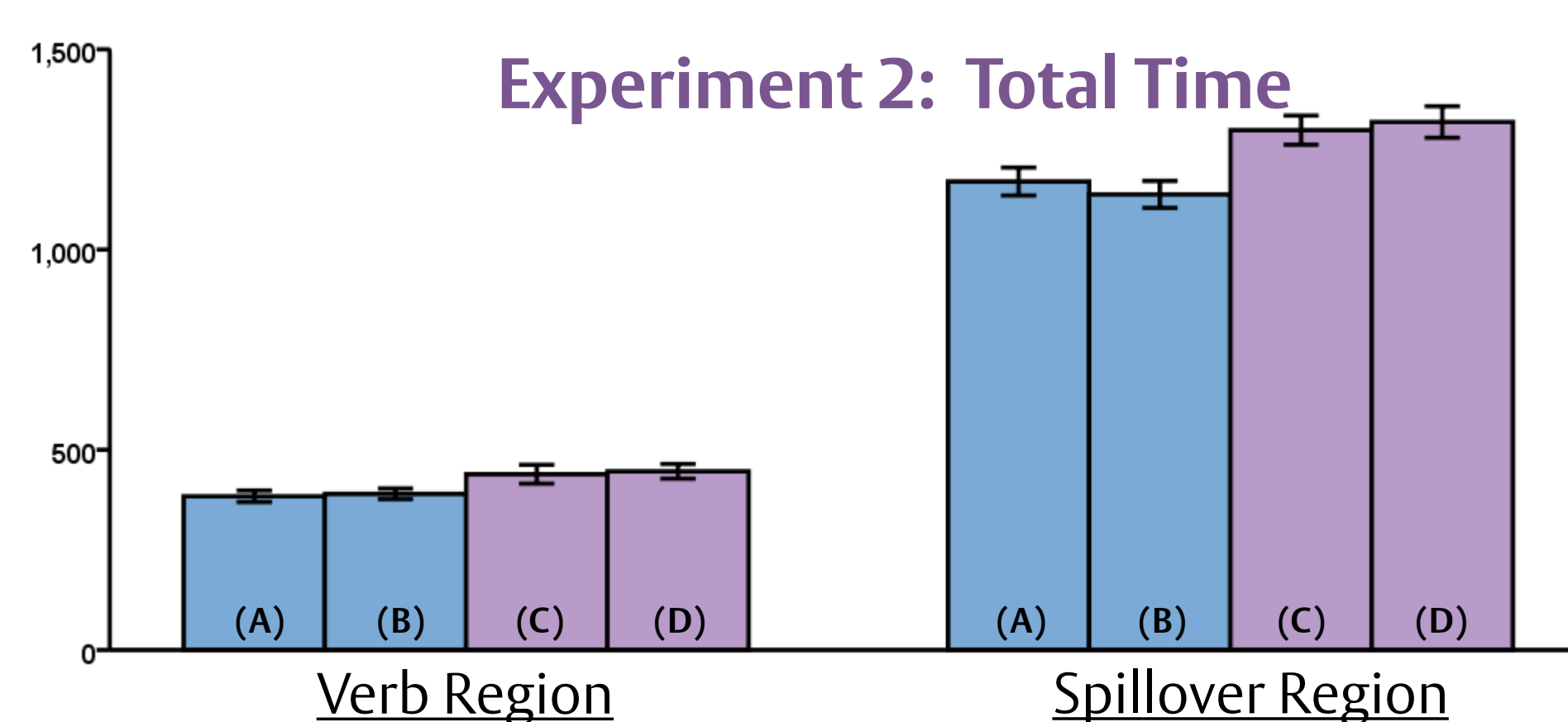
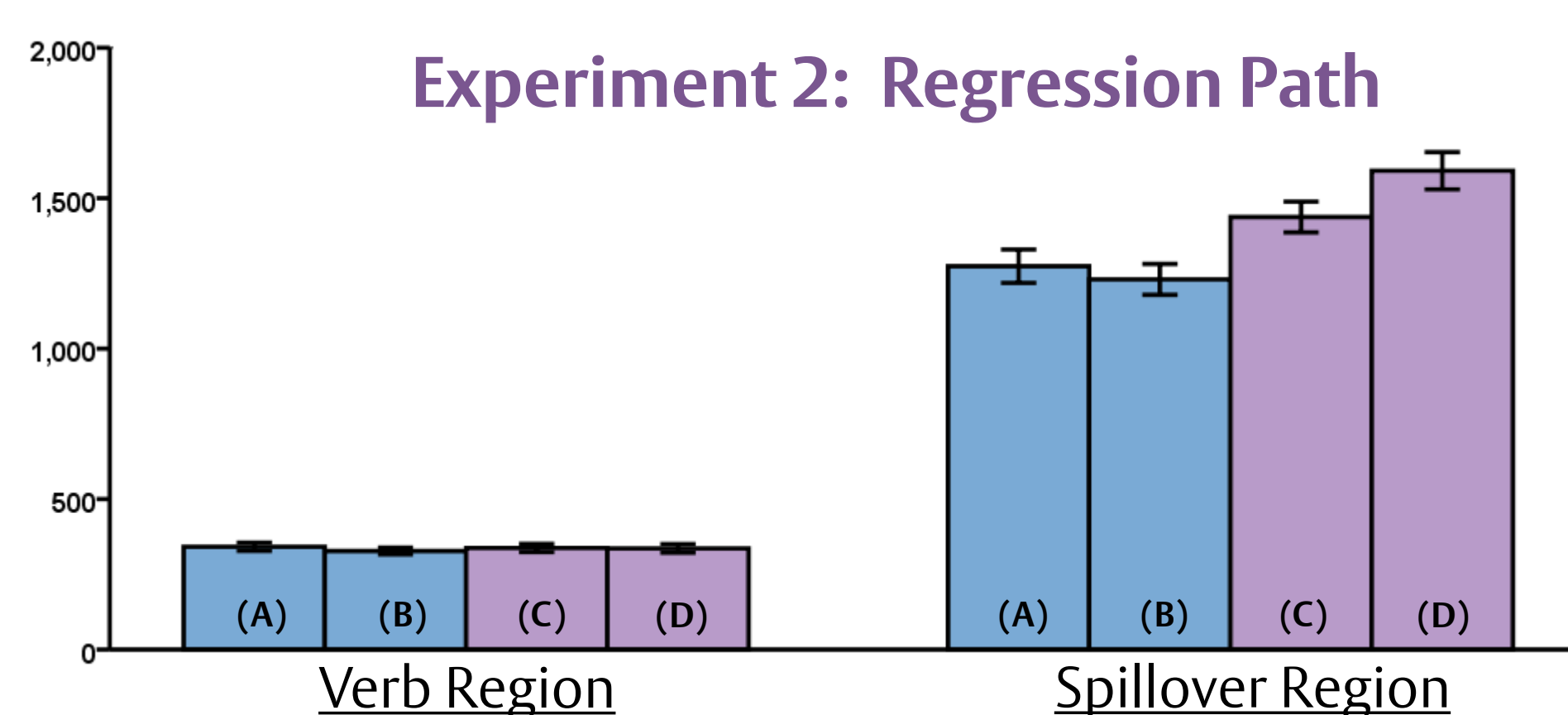
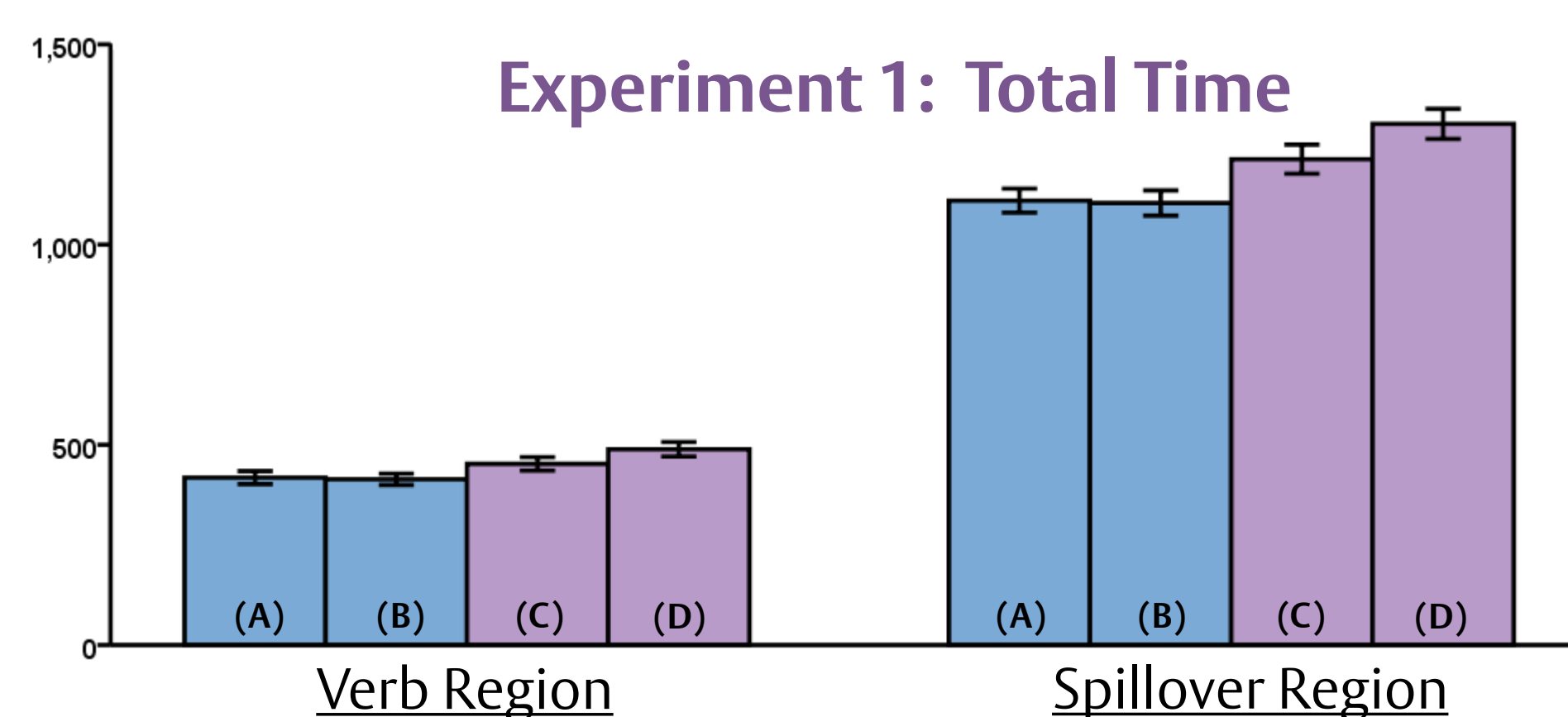
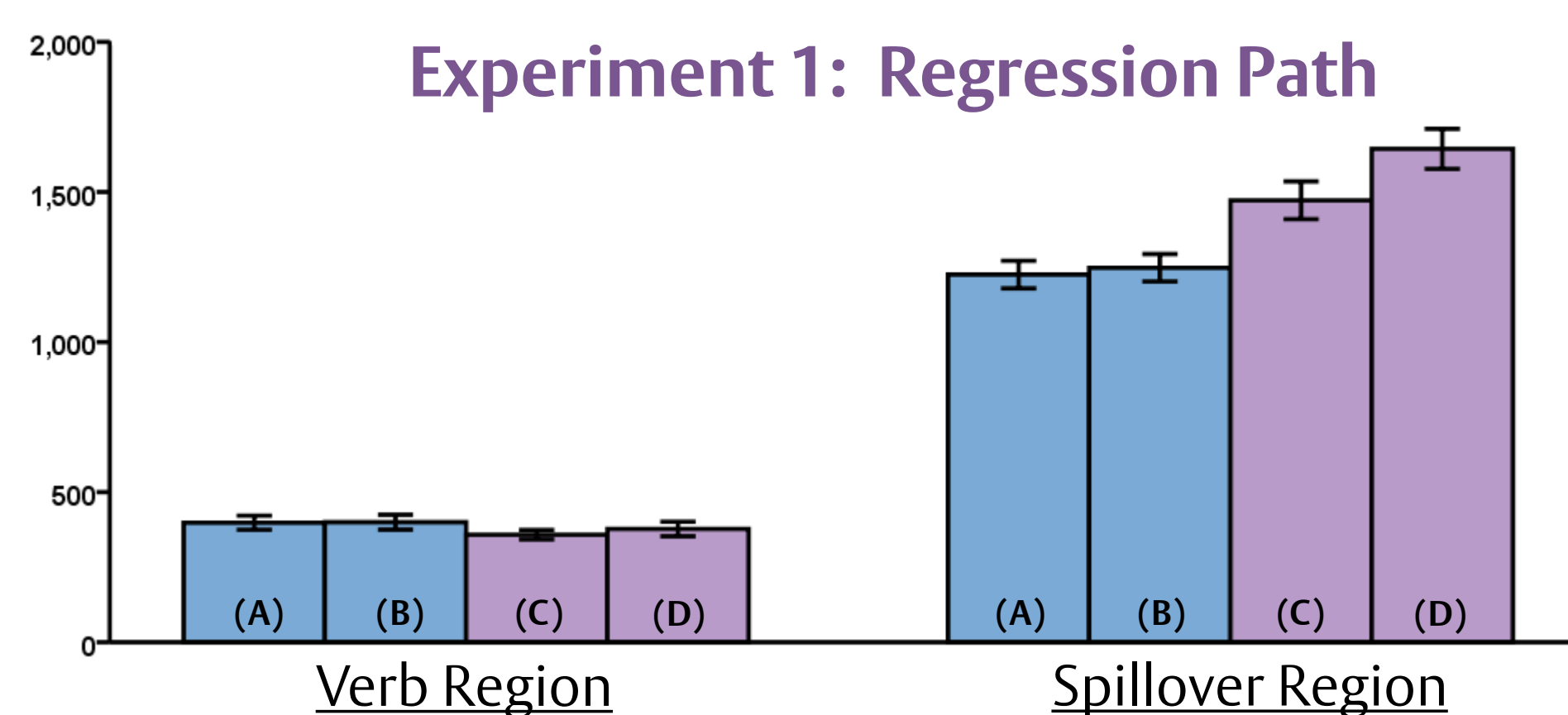
The criminal stood by the cop very calmly after arresting the robber outside the bank.

### (D) Implausible, Inanimate Distractor

The criminal stood by the car very calmly after arresting the robber outside the bank.

## Summary & Conclusions

- Significant *plausibility* effects in both experiments, with numerical but not significant *interference* effects
- Combined analysis of regression path in both experiments revealed significant *plausibility* by *distractor* interaction
- Results suggestive of *interference* in temporal adjuncts (see also Parker et al., 2015) and co-ordination
- *Interference* may have been attenuated here because the distractor did not match the [+SUBJECT] retrieval cue of the verb (see Van Dyke & McElree, 2011)



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### Acknowledgements

- This research was supported by a British Academy/Leverhulme Small Research Grant



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